ABSTRACT

This invention provides a controlled temperature, thermal-assisted magnetic memory device. In a particular embodiment, there is an array of SVM cells, each characterized by an alterable orientation of magnetization and including a material wherein the coercivity is decreased upon an increase in temperature. In addition, at least one reference SVM (RSVM) cell substantially similar to and in close proximity to the SVM cells of the array is provided. A provided feedback control temperature controller receives a feedback voltage from the reference SVM cell, corresponding to temperature, and adjusts power applied to the RSVM cell and SVM cell. An associated method of use is further provided.